

Exploring Government Budget Deficit and Economic Growth: Evidence from Vietnam's Economic Miracle

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Abstract: Government actions influence a country's economic performance. However, the debate about the effects of government budget deficit on economic growth remains unsettled. On the one hand, deficit is believed to trigger high tax rates, which can decrease productivity and deter private investment. On the other, deficit spending is assumed to complement business investment and stimulate economic productivity. This article assesses the probability of such claims for the Vietnamese government's fiscal policy between 1989 and 2011. After the introduction of the *Doi Moi* reform policy in the late 1990s, Vietnam has witnessed high economic growth. Yet, its government's deficit pattern is among the highest in Southeast Asia. The findings demonstrate that in the case of Vietnam, government deficits had no direct effects on the country's economic productivity between 1989 and 2011. Instead, the article discovers that foreign direct investment (FDI) played an important role in Vietnam's economic productivity over the same period, while real interest rates adversely affect growth. This article concludes that rather than an expansion of the public sector through government spending deficit, Vietnam requires administrative and regulatory reforms to ensure an efficient use of government resources, a continuous flow of foreign capital, and consistent economic growth.

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Keywords: economic growth, fiscal policy, government budget deficit, Vietnam

Introduction

Today, the effects of government deficits are an important economic issue facing policymakers around the world, from Western Europe to East Asia.¹ Almost a century ago, governments incurred large deficits only during wars or economic depressions. However, in recent decades, governments, especially those in the developed world, have incurred large budget deficits to finance their healthcare and social welfare programs.² In the macroeconomic literature, extensive theoretical and empirical works have been developed to assess the relationship between budget deficits and macroeconomic variables, such as economic growth and employment. Yet there are conflicting views from these works about the effects of government budget deficits on economic expansion.³ From a neoclassical perspective, budget deficits increase current consumption in the short run but result in a long-term decline in private investment. On the contrary, Keynesian economists point out the “crowding-in” effect in which government deficit spending raises a country’s domestic production, which in turn encourages businesses to invest more. In contrast to the neoclassical and Keynesian views, the Ricardian equivalence theory posits that government deficits have no influence over macroeconomic conditions.

The aim of this article is two-fold. First, we seek to gain a better understanding of the relationship between government deficit and a country’s economic performance. Currently, many studies on government deficit address the effects of government expenditure on private investment decisions.⁴ Others take a more financial and monetary perspective in examining how government budget deficit impinges on other aspects of the economy, such as inflation,⁵ and the exchange rate.⁶ Meanwhile, existing works on the relationship between budget deficit and economic productivity rely on cross-sectional and cross-national analyses that do not effectively capture each country’s specific context of fiscal management.⁷ The article aims to bridge this empirical gap by providing evidence from Vietnam—one of Southeast Asia’s fastest growing economies whose national government has also incurred one of the region’s highest fiscal deficits.⁸

Secondly, this article is an attempt to assess the contribution of key macroeconomic factors to Vietnam’s rapid economic transformation since the *Doi Moi* reform began. Currently, the global economic downturn has led to a significant decline in global trade, creating an uncertain environment for Vietnam and other emerging economies around the world.⁹ Vietnam in particular faces the twin challenges of sustaining its economic development trajectory: declining population growth and widening economic disparity.¹⁰ For decades, migration from farm to factory has been instrumental in boosting Vietnam’s manufacturing sector. With waning growth in Vietnam’s labor force in recent years, the country’s manufacturing productivity is under threat. Also, increasing economic disparity caused

by unprecedented economic growth is likely to create a host of costly social and environmental problems.¹¹ How should the Vietnamese government respond to all these pressing issues without sacrificing its economic competitiveness? This present article aims to answer this question by looking at the relationship between growth in Vietnam's economic productivity and several macroeconomic indicators over the past two decades.

The remainder of this article starts out with an in-depth discussion of theoretical and empirical works on the macroeconomic effects of government budget deficit. Different arguments are presented, deriving from three major theoretical perspectives: Keynesianism, neoclassical economics, and the Ricardian equivalence theory. The second section offers an overview of Vietnam's government spending deficit and GDP growth since the beginning of the *Doi Moi* reform. Subsequently, the third section presents the econometric model used for estimating the impact of several macroeconomic factors, including government budget deficits, on Vietnam's economic productivity. Methods of data collection and analysis are also discussed. In the fourth section, the econometric model is used to assess the effects of the Vietnamese government's budget deficits on economic productivity. The article culminates in a discussion of the macroeconomic factors that have contributed to Vietnam's economic progress, as well as how the Vietnamese central government should proceed with its ongoing reform.

Government Budget Deficit and Economic Productivity

Government organizations use a variety of fiscal instruments to achieve social stability and promote economic growth. Each choice of fiscal instrument has a different impact on a country's economic wealth and performance. One of the fiscal measures commonly used by governments to intervene in economic sphere is their own expenditures.¹² In contemporary economic literature, there are three major theoretical frameworks on the mechanisms by which governments' expenditures affect economic productivity. In this section, details of each theoretical framework are discussed along with existing empirical works on the relationship between government budget deficit and economic growth in different countries.

A government deficit occurs when the government's total expenditures exceed its total revenues.¹³ A large deficit does not always indicate imprudent fiscal behavior. Governments may choose to incur deficits as a strategy to cope with wartime situations and economic downturns.¹⁴ Keynesian economists emphasize the "expansionary" or the "crowding-in" effects of budget deficits on the economy due to increases in domestic production and private investment.¹⁵ In other words, deficits have a positive influence on economic productivity.¹⁶ Eisner further explains this relationship by pointing out that a government budget deficit can lead to

an increase in aggregate demand, which eventually stimulates savings and private investment.¹⁷ However, these crowding-in effects occur only when a deficit results in more public infrastructure, such as roads, airports, railway networks, and public utilities.¹⁸ Similarly, social welfare and education programs can enhance growth by reducing social conflict and by developing human and technological capital for future economic activities.¹⁹

On the contrary, neoclassical economists argue that such crowding-in effects only exist in the short run.²⁰ By resorting to budget deficits, governments shift tax burdens to the future.²¹ As a result, even though current private consumption is bound to increase, personal savings are likely to decline. In this scenario, interest rates are expected to rise in order to restore equilibrium in the capital market. Higher interest rates would in turn trigger a decline in private investments.²² Neoclassical economists refer to these negative consequences as the “financial crowding-out” effects of a budget deficit, which exposes the government’s limited ability to influence economic activities with fiscal measures.²³ Apart from the financial effects, the “resource crowding-out” effects can also be caused by a government budget deficit. When the government sector expands through deficit spending, the costs of essential economic resources (e.g., skilled labor, raw materials) will also increase, making it difficult for the private sector to thrive.²⁴

While Keynesian economists and neoclassical economists have contradicting views about the relationship between deficit and growth, Barro proposes the “Ricardian equivalence” theorem, which posits that the relationship is neutral.²⁵ An increase in budget deficits today must be compensated by future tax increases, thereby leaving the interest rates and private consumption unaffected.²⁶ Barro assesses this theorem by examining the effects of government deficits on investment and growth in 98 countries from 1960 to 1985.²⁷ Findings show that government spending programs in those countries had no direct relationship with economic productivity. Rather, a key factor influencing the deficit-growth relationship is the type of government services and programs. Spending on public infrastructure is likely to have a more positive impact on a country’s economic progress than welfare programs and agricultural subsidies.²⁸ Similarly, in a study of 30 developing countries between 1970 and 1980, Bose, Haque, and Osborne argue that government budget deficits in the education sector have “long-lasting effects on economic prosperity.”²⁹ Based on these studies, public investments in public infrastructure and education are regarded as “growth-enhancing” government expenditures.

Several studies challenge the “crowding-in” hypothesis of Keynesian economics. In 17 developed countries between 1949 and 1981, Guess and Koford find that government budget deficits did not affect inflation, economic productivity, and private investment.³⁰ Landau³¹ and Kormendi and Mequire³² conducted similar studies that examine the relationship between government expenditures

and economic growth rates in more than 50 countries. No significant relationship between deficit and growth was found in these two studies. A large number of single-country studies also defy the Keynesian assumption. For instance, an analysis of Pakistan's economy between 1978 and 2009 reveals that government budget deficits reduced growth.³³ Similar results were found in Saudi Arabia from 1960 to 1996,³⁴ the United Arab Emirates between 1973 and 1995,³⁵ and Tunisia from 1963 to 1993.³⁶ Both in the short and long run, government budget deficits did not appear to affect economic productivity in these three Middle Eastern countries.

However, other studies focus on deficit-growth relationship in the developed countries, as well as the nature of public services and programs that precipitate budget deficits. As found by Aschauer, infrastructure investments by the American federal government facilitated private capital accumulation in the United States, from 1953 to 1986.³⁷ This study is consistent with the research findings by Bahmani:³⁸ government budget deficits related to infrastructure and capital projects cause "crowding in" rather than "crowding out." Likewise, when Argimon and colleagues extend the analysis to 14 OECD countries between 1978 and 1989, it is found that government expenditures have significant crowding-in effects on private investment, through the positive impact of infrastructure on economic productivity.³⁹ Apart from infrastructure and government capital projects, social security policy and social safety net programs are also considered to be growth-promoting expenditures.⁴⁰ This suggests that countries may simultaneously pursue growth-oriented and social welfare policies.

Empirical studies reviewed in this section show mixed results about the effects of government budget deficits on economic growth. These diverse views are summarized in Table 1. However, it is important to note that different components of government expenditures have different economic effects. In research works that highlight the positive relationship between deficits and economic productivity, government spending on public infrastructure is commonly found to promote growth. Not only does a country's infrastructure capacity enhance the private sector's productivity, it also attracts foreign investments into the country.⁴¹

***Doi Moi*: Vietnam's Economic Liberalization Movement**

In 1986, Vietnam's central government launched a national renovation process (*Doi Moi*) with the official goal of establishing a "socialist-oriented market economy."⁴² Since then, a wide range of policies and programs have been adopted to promote economic development and integration with the international community. The Vietnamese Communist Party (VCP) abandoned its communist principle of centrally planned economy in favor of a liberalized market system, particularly in the agrarian sector. Price controls on agricultural products were removed and farmers permitted to engage in trade of agricultural goods.⁴³

TABLE 1. Three Main Schools of Thought on the Relationship Between Government Budget Deficits and Economic Growth

School of Thought	Assumption
Keynesian Economics	<ul style="list-style-type: none"> • Budget deficits have the “crowding-in” or “expansionary” effects. • Budget deficits increase aggregate demand, which lead to higher private savings and investment. • However, budget deficits must occur as a result of “productive government spending,” such as public infrastructure.
Neoclassical Economics	<ul style="list-style-type: none"> • The crowding-in effects only exist in the short run because tax burdens are shifted to the future. Budget deficits will result in an increase in current private consumption and a decline in personal savings. • Higher interest rates caused by declining personal savings decrease private investments (the “crowding-out” effects).
Ricardian Equivalence Theorem	<ul style="list-style-type: none"> • There is no relationship between budget deficits and economic growth. • An increase in deficits is compensated by future tax increases, leaving interest rates and private consumption unaffected.

Not only did economic liberalization in Vietnam trigger rapid growth of agricultural production, it also encouraged international trade and foreign investment. Trade barriers, as well as restriction on foreign enterprise ownership, were lifted.

Through a more open environment for trade and investment, Vietnam has become increasingly engaged in the Association of Southeast Asian Nations (ASEAN), leading to closer diplomatic ties with other countries in Southeast Asia and other world regions.

Doi Moi also aims for macroeconomic stability.⁴⁴ The stabilization measures include inflation reduction, government spending cap, and tax reform. Yet the Vietnamese government faces an important challenge in controlling its expenditures, particularly in the health, education, and social service sectors. Between 1989 and 1993, government spending on education rose by approximately 153% and on health by more than 61% as a percentage of GDP.⁴⁵ However, since *Doi Moi*, a large component of the Vietnamese government's budget deficits has stemmed from subsidies to state-owned enterprises (SOEs).⁴⁶

An essential dimension of the *Doi Moi* is "the diminution of the role of the state in the ownership and control of economic activity."⁴⁷ Key to this reform dimension is an attempt to make Vietnam's government agencies, including the SOEs, more efficient and less dependent on government subsidies.⁴⁸ Yet, even though a large number of SOEs were merged or transformed into joint-stock companies (JSCs), they still dominate the Vietnamese economy and enjoy privileged access to financial bailout from the central government.⁴⁹ Further, the Vietnamese SOEs' overall performances lag behind those of private firms and state-owned enterprises in the nearby socialist countries, such as China.⁵⁰ For instance, only four out of more than 1,300 SOEs were profitable in 2011.⁵¹ This productivity problem among the Vietnamese SOEs evolved into an intense struggle within the central government in 2011, which ultimately gave rise to a nationwide anti-corruption campaign.

Rapid increase in the Vietnamese government's budget deficits has generated debate on the public sector's role in a country's economic development trajectory. On the one hand, government spending, particularly on education and public infrastructure, can help crowd in both private consumption and investment. Vietnam's accelerated development after *Doi Moi* appears to bolster this argument. On the other, after the two global economic crises in 1997 and 2008, concerns arise over the effects of government budget deficits on Vietnam's future economic growth. As Vietnam joins other ASEAN member states in pursuit of economic integration, unproductive government spending, such as subsidies for the financially insolvent SOEs, is likely to hamper the country's attractiveness as a new business and investment hub for Southeast Asia.

Research Methods and Model Specification

An analysis of the impact of government budget deficits on the economy is predicated on an assumption that government fiscal behavior has an important bearing on a country's economic progress. The research methods employed in this article consist of two parts. The first part makes use of descriptive statistics,

including the mean and percentage, to compare Vietnam's key economic characteristics with those of five other large Southeast Asian economies. Included in this analysis are Indonesia, Malaysia, the Philippines, Singapore, and Thailand. The 1989–2011 data for Vietnam and other Southeast Asian countries are collected from the World Bank's global economic database and the Asian Development Bank (ADB) database. For comparison purposes, the data are divided into two periods: 1989–2000 and 2001–2011.

Second, we rely on panel data econometrics to estimate the effects of government budget deficits on Vietnam's economic growth from 1989 to 2011. As previously discussed, the literature consists of different views about the relationship between fiscal deficits and economic growth. In their assessment of these views, Shojai⁵² and Fatima and colleagues⁵³ employ the following model:

$$\ln_GDP = \beta_0 + \beta_1 \ln_INFL + \beta_2 \ln_EXCH + \beta_3 \ln_RIR + \beta_4 \ln_BD \\ + \beta_5 \ln_GI + \varepsilon$$

Where:

GDP = gross domestic product, which is a measure of national economic performance,

INFL = inflation rate,

EXCH = real exchange rate,

RIR = real interest rate,

BD = budget deficit, and

GI = gross domestic investment.

At the initial stage of this research, this model was adopted to examine the effects of the Vietnamese government's budget deficits on the country's economic performance since the *Doi Moi* reform. Vietnam's economic data between 1989 and 2011 are obtained from the World Bank and Asian Development Bank's databases. Apart from the above variables, lagged GDP and foreign direct investment (FDI) were also included as additional independent variables. Based on our initial test, five independent variables (i.e., inflation, exchange rate, real interest rate, lagged GDP, gross domestic investment) turned out to be highly correlated with one another. As a solution to this multicollinearity problem, we omit these five variables from our analysis. Thus, the relationship between Vietnam's government budget deficits and economic productivity is estimated with the following equation:

$$GDP_t = f(GBD_t, RIR_t, FDI_t)$$

Or:

$$\ln_GDP_t = \beta_0 + \beta_1 \ln_GBD_t + \beta_2 \ln_RIR_t + \beta_3 \ln_FDI_t + \delta_t + \varepsilon$$

Where:

GDP_t = Vietnam's gross domestic product at year t ,

GBD_t = the Vietnamese national government's budget deficit at year t ,

RIR_t = Vietnam's real interest rate at year t ,

FDI_t = amount of foreign direct investments in Vietnam in year t ,

δ_t = year (1989-2011), and

ε = an error term.

The above variables are included in our model for the following reasons. As the dependent variable, GDPs from 1989 to 2011 offer a proxy for changes in Vietnam's economic performances. Even though economists increasingly express their concerns with the shortcomings of the GDP concept, the use of GDP over time in a panel data regression model can provide vital clues to a country's economic expansion in a given time period.⁵⁴ The national government budget deficit (GBD) and real interest rate (RIR) are two independent variables that measure the degree of government intervention in the Vietnamese economy. As our main variable of interest, the national government budget deficits from 1989 to 2011 provide a proxy for the Vietnamese government's post-*Doi Moi* fiscal policy. The other aspect of Vietnam's macroeconomic management is the government monetary policy, which is represented by the real interest rate variable in our model. Another independent variable is FDI, which measures the size of international capital inflows to Vietnam. This variable is crucial to an understanding of Vietnam's post-*Doi Moi* economic policy because it reflects the country's openness to international trade.

Two forms of panel data estimator (i.e., fixed and random effects) can be used to test our model. It is suspected that certain factors influencing Vietnam's economic performance, such as the country's geographic location, are time-invariant and may not be captured by our independent variables. However, these factors are likely to be correlated with the independent variables in our model, thereby rendering the random-effects estimation inappropriate for the present analysis. As reported in Table 2, the Hausman specification test result confirms our suspicion, allowing us to reject the null hypothesis of no correlation among the individual effects and the error term. As a result, the fixed-effects model is the preferred specification for analyzing the effects of Vietnam's national budget deficits on economic performance.

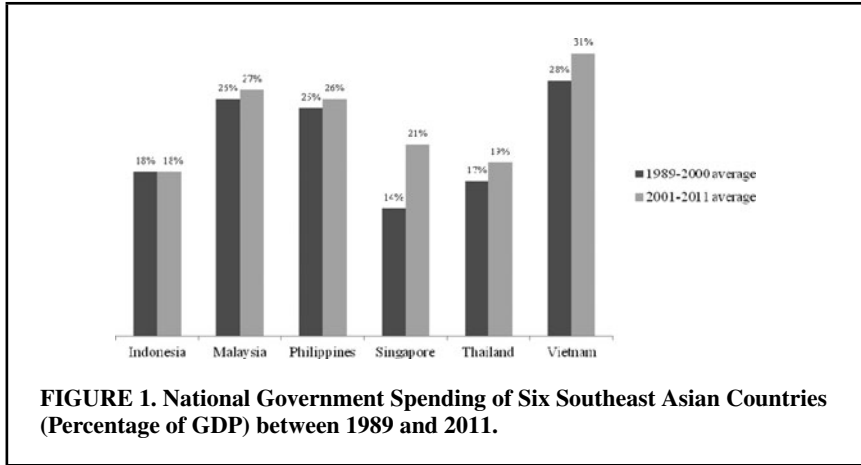
TABLE 2. Fixed-effects estimation of the determinants of Vietnam's economic growth from 1989 to 2011 (N = 23).

Variable	Coefficient	Standard Error	Variable Description
Constant	20.878*** (18.269)	1.143	
ln_GBD	-0.010 (-1.019)	0.010	Log of Vietnam's government budget deficits
ln_RIR	-1.059*** (-7.282)	0.145	Log of Vietnam's real interest rate
ln_FDI	0.243*** (5.364)	0.045	Log of foreign direct investments in Vietnam
Model Diagnostics			
R^2	0.916		
Adjusted R^2	0.903		
Durbin-Watson	1.706		
F-statistic	$F(3,19) = 69.444, p = 0.000$		
Hausman test	$\chi^2(5) = 166.76, p = 0.000$		

Notes: 1. t-statistics are shown in parentheses.
 2. Dependent variable: ln_gdp (log of gross domestic product).
 3. Method: Panel data model with fixed effects estimator (Fixed year variable).
 4. ***p < 0.01; **p < 0.05; *p < 0.10.

Research Findings: Vietnam's Government Budget Deficits and Economic Productivity

Karl Polanyi⁵⁵ observes two "Great Transformations" in the economic role of government since the late 18th century: the transformation from mercantilism to laissez-faire capitalism and the transformation from laissez-faire capitalism to modern mixed economies. Thus, government actions and inactions are critical to all economic systems, including laissez-faire capitalism. For Vietnam, transformation of the country's centralized command economy to liberalized market economy did not entirely eliminate the central government's role in the country's economic progress. Similar to other countries' national governments, the Vietnamese government wields important influence over the country's economy through its macroeconomic policies. In this section, the results of the descriptive statistical analysis are reported, followed by the findings of our fixed-effects econometric model.



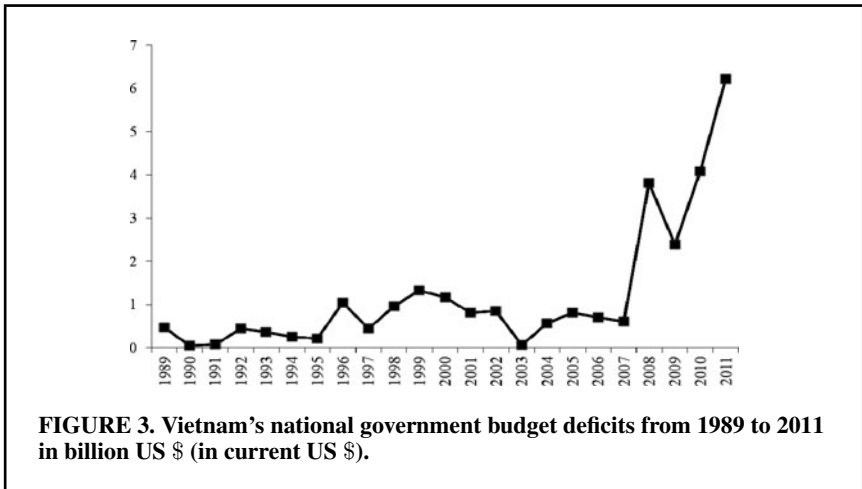
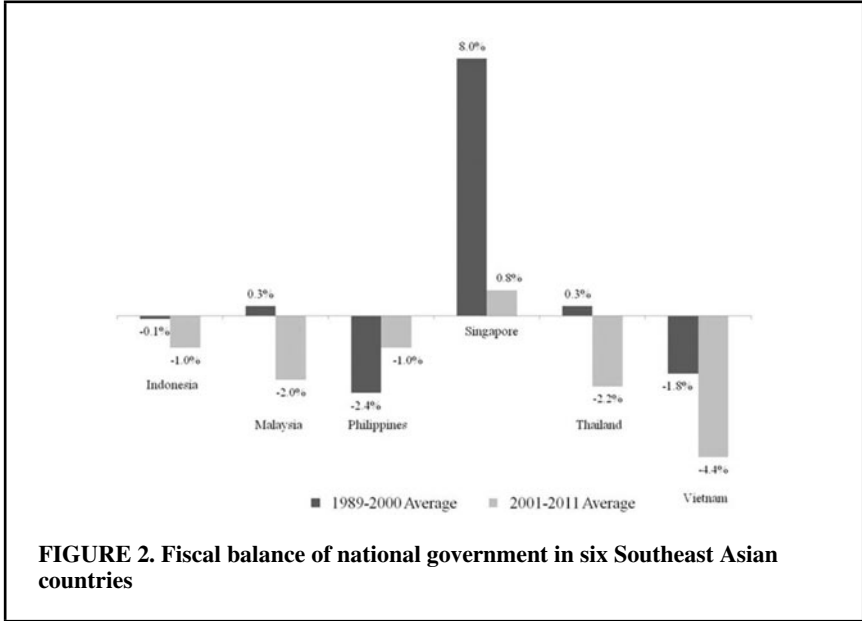
Descriptive Statistical Analysis of Macroeconomic Indicators

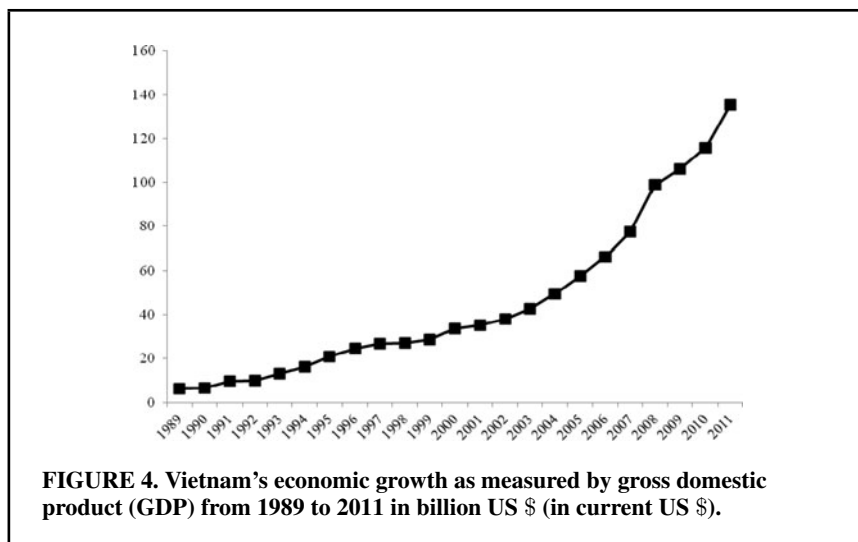
In the public finance literature, one measure of the government's economic role is the size of government spending relative to a country's economic performance.⁵⁶ On the average, Vietnam's government spending as a percentage of GDP between 1989 and 2011 was higher than other large Southeast Asian economies, including Indonesia, Malaysia, Philippines, Singapore, and Thailand (Figure 1). Moreover, when these figures are broken down into two periods (i.e., 1989–2000 and 2001–2011), Vietnam's national government spending relative to its 2001–2011 economic performances shows a rising trend. Thus, based on the size of government spending, Vietnam's government sector still retains its vital role and influence in the Vietnamese economy, despite the *Doi Moi* reform.

Looking at the public expenditure alone does not permit full understanding of the national government fiscal behavior. Other aspects of public budgeting and finance are equally important, such as the government's revenue-generating capacity and year-end account balances. In terms of the government budget deficits accumulated by six Southeast Asian countries from 1989 to 2000, Vietnam was second only to the Philippines (Figure 2). The situations changed, as the 21st century began. The Philippines' national government deficits significantly reduced from -2.4% to -1% between 2001 and 2011. Also, during this period, Malaysia and Thailand—the region's two rapidly growing economies—began to build up national budget deficits that surpassed the Philippines. (Percentage of GDP) between 1989 and 2011.

On the contrary, the Vietnamese national government's budget deficits continued to grow. From 2001 to 2011, Vietnam's average national budget deficit measured as a share of GDP was the largest among the six Southeast Asian

economies (Figure 2). Upon a closer look, significant growth in the Vietnamese national fiscal deficits only occurred from 2008 to 2011 (Figure 3). Prior to 2008, the Vietnamese national government ran a deficit of no more than 2 billion dollars per year.





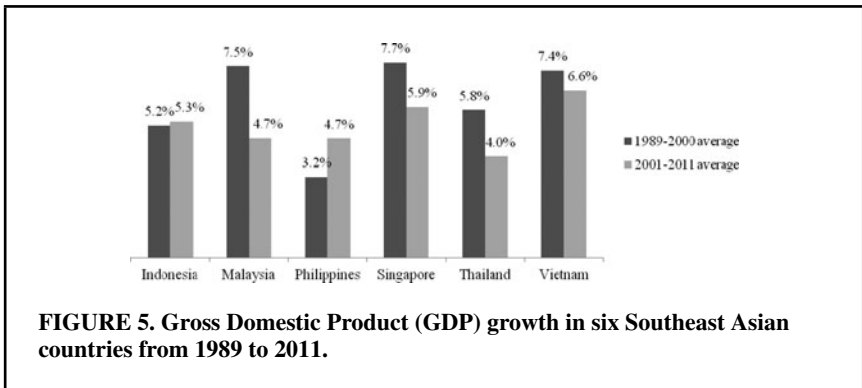
While accumulated government deficits were on the rise in post-*Doi Moi* Vietnam, the country also witnessed unprecedented economic growth between 1989 and 2011. In one decade, the Vietnamese economy as measured by GDP increased more than four fold from 6.29 billion dollars in 1989 to 27.21 billion dollars in 1998 (Figure 4). A similar growth pattern occurred in the following decade (1999–2011).

When comparing these economic figures to the other large Southeast Asian economies, Vietnam's average growth rate between 1989 and 2000 was 7.4%. During this period, Vietnam, Malaysia (Average growth rate of 7.5 percent), and Singapore (Average growth rate of 7.7 percent) were the region's fastest growing economies (Figure 5). However, beginning in 2001, growth rates in Malaysia and Singapore dropped significantly. In Malaysia, for instance, an average GDP growth rate decreased from 7.5% in the 1989–2000 period to 4.7% in the 2001–2011 period. The Vietnamese economy, though also affected by the 2008–2009 global financial crisis, experienced only a 0.8% decrease in economic growth. With an average GDP growth rate of 6.6 percent between 2001 and 2011, Vietnam has become Southeast Asia's best-performing economy.

Based on these data on GDP and the national fiscal deficits, Vietnam's national government accumulated the largest budget deficits in Southeast Asia during the same time as the rapid economic expansion. Other independent variables in our model are FDI and real interest rate. With Vietnam's increased openness to international trade in post-*Doi Moi* era, foreign capital inflow is considered an important factor facilitating the country's economic performance. As appeared in

Figure 6, there was an increasing trend of FDIs in Vietnam from 1989 to 2011. However, after the 2006–2008 exponential growth, the FDI inflows into Vietnam decreased by approximately two billion US dollars in 2009. This was mainly caused by the 2006–2008 global financial crisis. In 2010 and 2011, Vietnam’s FDI stocks continued to fluctuate and did not experience the same growth pattern as the 2006–2008 period.

Real interest rate is an independent variable that represents the monetary aspect of Vietnam’s national government policy. The real interest rates are calculated by subtracting inflation rates from the interest rates that lenders quote in loan and

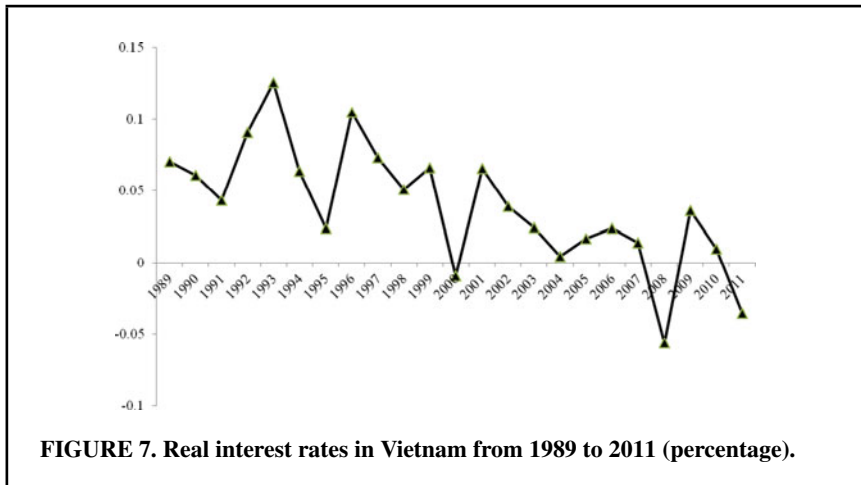


deposit agreements. As shown in Figure 7, Vietnam's real interest rates were positive from the start of the *Doi Moi* reform in 1989 until 1999. This was due to increases in the nominal interest rates on household savings. However, the real interest rates began to fluctuate when the government cut the nominal interest rates several times since 1995 in response to the decline in inflation.

Results of the descriptive statistical analysis in this section have demonstrated the trends in economic growth and national government budget deficits in post-*Doi Moi* Vietnam. Compared to Southeast Asia's five large economies, Vietnam registered the highest economic growth rates and also amassed the highest budget deficits over the past two decades. In addition, the findings have revealed the FDI growth pattern in Vietnam, as well as fluctuations in the real interest rates. The next section will examine the effects of government budget deficits on economic performance by using the fixed-effects econometric model.

Effects of Government Budget Deficits on Vietnam's Economic Performance

The question then arises about the effects of government budget deficits on Vietnam's economic progress. A fixed-effects econometric technique is adopted to answer this question. Based on the model diagnostics in Table 2, both the R-squared and adjusted R-squared are high. Arithmetically, the R-squared always improves when a new independent variable is added to the model. A theoretical underpinning of the R-squared improvement is that every new independent variable explains the variation in the dependent variable. However, such improvement



can also be caused by chance. The adjusted R-squared compensates for this by penalizing each additional variable. Therefore, the adjusted R-squared indicates the percentage of variance explained by only the predictors that actually affect the dependent variable. Based on the research findings, the high R-squared and adjusted R-squared indicate that our model is valid and that no risks of major misspecification exist. Further, the *F* statistics show that the model is correctly specified. Further, the Durbin-Watson test does not detect the autocorrelation problem.

From the above results, the direct effects of government budget deficits on Vietnam's rapid economic growth are unclear. This is because the relationship between government budget deficits and GDP is not statistically significant. On the other hand, we discover from our model that the real interest rates played an important part in the Vietnamese economic development, but in a negative way. Even though the relationship between GDP and the real interest rates is statistically significant, the negative coefficient means that an increase in the real interest rates is associated with economic contraction. Among the three independent variables, FDIs appear to show a positive impact on the Vietnamese economy. The statistically significant effect of FDI on GDP implies that foreign capital inflows were one of the crucial determinants of Vietnam's economic expansion from 1989 to 2011.

Another important finding from the fixed-effects model is the large and statistically significant regression constant. This suggests that certain "autonomous growth" factors exist in the Vietnamese economic system. Apart from a quasi-automatic growth in the labor force and capital, a country's economic progress also impinges on the so-called autonomous growth factors, such as "new consumer goods, new production methods, new markets, and new forms of industrial organization."⁵⁷ In the case of Vietnam, the ongoing process of economic liberalization, especially in the agricultural sector, automatically creates outputs that accelerate growth.

When considering the contribution of foreign capital to other Southeast Asian countries' economies from 1989 to 2000, Vietnam attracted the second largest amount of FDI after Singapore (Figure 8). Between 2001 and 2011, Vietnam remained at the second place. However, the country's FDI volume as a percentage of the country's GDP slightly reduced from 6% to 5.4%. Meanwhile, Singapore was able to draw more foreign investors, resulting in a 4.8% increase in the FDI inflows as a share of GDP.

Based on our fixed-effects model, the Vietnamese national government deficits had no obvious direct influence over the country's economic progress. Instead, the FDI inflows served an important role in Vietnam's economic expansion. When considering the contribution of foreign capital to other Southeast Asian countries' economies from 1989 to 2000, Vietnam attracted the second largest amount of FDI after Singapore. Between 2001 and 2011, Vietnam remained at the second place. However, the country's FDI volume as a percentage of the country's GDP

slightly reduced from 6% to 5.4%. Meanwhile, Singapore was able to draw more foreign investors, resulting in a 4.8-percent increase in the FDI inflows as a share of GDP.

In light of these findings, an argument can be made that the *Doi Moi* reform policy has been more instrumental in making Vietnam more attractive for business investors than in transforming the Vietnamese government into an effective and efficient entity. However, even though Vietnam was able to record the fastest economic growth in Southeast Asia from 2001 to 2011, its FDI inflows significantly fell behind Singapore by a large margin. Therefore, despite their country's rapid changes over the past two decades, the Vietnamese government policymakers will have to come up with new initiatives to attract more foreign capital and improve public sector performance.

Discussion and Concluding Remarks

In the economic literature and policymaking circle, there are multiple views about the economic role of government. Keynesian economists argue that the government budget deficits have the "crowding-in" effects on the economy. Neoclassical economists disagree, pointing out that more government spending would "crowd out" private investment and hinder economic growth. Fundamentally different from the Keynesian and neoclassical arguments, the Ricardian equivalence theorem posits that there is no relationship between a country's government budget deficits and its economic performance. Numerous cross-country and country-specific studies have been conducted to support each of these views.

Vietnam offers a unique case for assessing the three theories. Decades of using the central planning economic approach left behind a complex bureaucratic apparatus. Transition to a market economy as a result of the *Doi Moi* reform policy did not eliminate the Vietnamese government sector. On the contrary, one of the reform objectives was to make the public sector more effective in leading Vietnam toward social and economic development. Yet, large fiscal deficits incurred by the national government indicate that the government sector in Vietnam continued to expand in spite of the *Doi Moi* reform. Over the past 23 years, Vietnam has had the largest fiscal deficits and also the fastest growing economy in Southeast Asia.

However, this article has demonstrated that the Vietnamese national government deficits from 1989 to 2011 had no clear direct effects on the country's economic performance. This insignificant relationship is consistent with the Ricardian equivalence theorem, which stipulates that there is no relationship between government budget deficits and economic growth.⁵⁸ These research findings also confirm several cross-national studies⁵⁹ and country-specific studies.⁶⁰ Based on these empirical works, government fiscal deficits do not have direct effects on economic productivity, inflation, or business environment.

On the other hand, FDI is one of the important factors that contributed to Vietnam's economic expansion for more than two decades. This finding is supported by Mai⁶¹ who also finds a positive relationship between FDI and Vietnam's economic growth between 1989 and 1998. Our research has extended Mai's analysis by assessing such relationship from 1999 to 2011 and yielded the same results. Similarly, empirical studies of other world regions reveal a positive relationship between foreign capital inflows into a country and its economic performance.⁶²

The real interest rate is another independent variable that has a statistically significant relationship with economic growth in Vietnam. Similar to government spending, the interest rate policy is a vital aspect of macroeconomic management. In the Vietnamese case, high real interest rates adversely affect economic growth. This finding corresponds to previous studies that challenge the assumption that high real interest rates boost economic productivity.⁶³ Yet the Vietnamese financial sector has nuances that must be taken into consideration. Both the quality and quantity of the Vietnamese banks are inadequate.⁶⁴ Restrictive government regulation and high level of non-performing loans among SOEs are key characteristics of Vietnam's financial system.⁶⁵ These problems are possible explanations for the direct negative impact of real interest rates on Vietnam's economic growth.

Even though government budget deficits have no direct effects on growth, more research still needs to be conducted regarding each type of government spending. As previously reported, even though Vietnam was Southeast Asia's fastest growing economy from 2001 to 2011, its FDI level during that period was inferior to Singapore. Related to this aspect, Bengoa and Sanchez-Robles argue that the impact of foreign capital on economic growth is positive only when a country has adequate human capital and a well-regulated market.⁶⁶ Although likely to cause budget deficits, certain government spending programs, especially education and technical training for the country's labor force, are conducive to economic growth.⁶⁷ Aschauer⁶⁸ and Bahmani⁶⁹ point out that government spending on public infrastructure has been vital to the developed countries' economic progress. Transport-related infrastructure in particular promotes trade and creates confidence among foreign investors.

Despite the unprecedented economic growth and large national government deficits, Vietnam's transport-related infrastructure still trails behind Singapore, Malaysia, and Thailand (Table 3). The low quality of public infrastructure, if not taken care of in a timely manner, could reduce Vietnam's competitiveness for foreign investors and consequently hinder future economic development. These statistics have important implications for both research and policy. For future research questions, attention should be given to each type of government spending in Vietnam and its impact on the economy. Apart from actual budget allocations to education and infrastructure, it is important to assess the effectiveness of national government agencies in implementing reform-related policies.

TABLE 3. Quality of Transport-related Infrastructure in Six Southeast Asian Countries in 2010, 2012, and 2014.

	2010	2012	2014	Average
Singapore	4.2	4.2	4.3	4.2
Malaysia	3.5	3.4	3.6	3.5
Thailand	3.2	3.1	3.4	3.2
Vietnam	2.6	2.7	3.1	2.8
Indonesia	2.5	2.5	2.9	2.7
The Philippines	2.6	2.8	2.6	2.7

Note: 1 = low to 5 = high.

Source: World Bank Economy and Growth Data.

For policy implications, it is evident from this research that a high level of government spending does not always increase savings and investments from the private sector. In other words, a country's economic growth is not solely determined by how much its national government spends. Rather, it is more important how the national government spends its fiscal resources. The second wave of Vietnam's national reform should focus on improving government effectiveness. Now that Vietnam has the fastest growing economy in Southeast Asia, the future challenges are how to sustain the growth and how to allow economic gains to trickle down to the poor. Vietnam requires an effective and efficient government to deal with these challenges.

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